

DSP5200

Digital Signal Processing
Loudspeaker System



New triple amplifier design based on the acclaimed DSP8000 minimizes colouration

Powerful, compact and elegant digital active loudspeaker with 2 1/2-way DSP crossover

Self-contained audio system with three custom drivers, three amplifiers, two digital converters, digital crossovers and advanced sound-shaping DSP computers for maximum fidelity

Listener remote control features including bass, treble tilt, listening axis, volume, time-compensated balance and absolute phase

Dynamic bass protection system avoids LF distortion at high levels

Controls accommodate different room positions

Ultra-rigid cabinet in veneered ply, braced and resin damped for maximum sonic purity

Available in black or silver high gloss lacquer, satin santos rosewood, natural satin maple, satin stained cherry and black ash finishes

Maximum output level up to 108dB spl

Meridian's acclaimed DSP-based loudspeakers are unparalleled in the industry. They combine excellent acoustic and drive-unit technology, with multiple built-in power amps and unique performance-enhancing DSP and digital conversion systems.

The Meridian DSP loudspeaker is the ultimate expression of our loudspeaker philosophy. Active loudspeakers mean giving each driver its own amplifier in direct and close control of all its parameters. DSP capability means crossover specifications that cannot be matched by conventional designs and bass extension vastly superior to other loudspeakers of the same volume. Keeping the signal in the digital domain until the last moment means that there is an unbroken link between the recording studio or concert hall and your listening room.

The new DSP5200 takes these principles to the highest ever level in a smaller loudspeaker.

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The DSP5200 takes the elegant appearance and advanced design of Meridian's flagship DSP8000 and popular DSP7000 and delivers it in a compact package under 36in tall. Indeed, many of the features that make the 5200 a truly impressive smaller loudspeaker derive from the larger systems in the range. Ideal for more spacious as well as smaller rooms, these loudspeakers will do justice to any system, in almost any environment.

The self-contained system combines a 2 1/2-way crossover design, three custom drivers, three amplifiers, two multi-bit delta-sigma digital converters, digital crossovers and computers to deliver an impressive, powerful and accurate sound with full remote control over bass, treble tilt, time-correct balance, absolute phase, tweeter axis and input. The latest technology gives the DSP5200 uncompromised, precise detail with pinpoint imaging and dimensionality in both stereo and surround. Advanced signal processing packs dynamics and bass into a size that defies imagination. DSP controls allow correction of the frequency response in a variety of locations.

Cabinet design

An enhanced basket design with sturdy clamp rings delivers the very best performance from the drivers, which are chosen specifically for their sound. The stylish, curved and tapered cabinet both increases stiffness and improves HF dispersion for a more natural top end. Cabinet construction is of 19mm thick multi-layer materials, with proprietary heavy poured resin, and is inherently stiff with superior geometry and damping. The dual bass drivers use 160mm long-throw composite designs and the cabinet vents through an extremely effective dual rear port. This configuration, along with active operation and DSP correction, delivers a combination of smooth, powerful bass and very low mid-range coloration. The tweeter is a 25mm aluminium-dome, silver-wire design.

Inside the DSP5200

Each speaker incorporates an electronics panel in the rear part of the cabinet.

The speaker accepts digital signals and has two inputs, placed at the base of the cabinet for maximum neatness and ease of installation. The electronic design of the DSP5200 is entirely new, and takes advantage of the latest advances in component design as well as techniques and approaches employed on the DSP8000.

The latest miniaturized surface-mount components add control and improve linearity, while the advanced high-value capacitors allow the power supply and its low-field true toroidal transformer to be placed closer to power amplifiers, offering lower inductance and improved power performance.

The input receiver uses a FIFO (First In First Out) memory buffer for the lowest possible jitter from almost any source. At the heart of the 5200 is a new DSP system based around a 150MIPS processor, running brand new software. A built-in circuit monitoring system handles both thermal and bass protection, without compromising either sound or protection capability.

High resolution double-precision processing and upsampling, coupled with the latest 192kHz, 24-bit DACs, ensure the digital signal path is second to none.

The three 75W amplifiers themselves are again based on those in the DSP8000, with the latest error-correcting auto-biasing technology which runs the amplifiers with maximum linearity and minimum coloration, even at high levels.

The bottom line

The result of all this intensive research and careful, painstaking design is a digital loudspeaker system that outperforms anything of its size, while its visual design and elegance remain second-to-none.

Meridian products are carefully designed inside and out and the DSP5200 – available in a choice of black or silver high gloss lacquer, satin Santos rosewood, natural satin maple, satin stained cherry and black ash finishes – is intended to look as good as it sounds.

And the sound is, simply, remarkable.

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Meridian retains the right to improve or modify product specifications and design at any time. E&OE.

Outline Specifications

Performance: Frequency response in-room within 3dB from 35Hz to over 20kHz. Linear-phase mid/top crossover.

Output >108dB spl @ 1m on music material. Noise less than 15dB spl. Overall distortion typically <0.02% at any frequency or level.

Inputs: Two S/PDIF digital inputs, 32kHz-96kHz sampling rates at up to 24 bit with MHR support.

Construction: '2 1/2-way' acoustic reflex system.

Drivers: 2 x 160mm polypropylene bass drivers.
1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded.

Electronics: Two precision 24/192 oversampling converters for bass/mid and tweeter signals. Active bass/mid crossover. Digital and conversion electronics constructed using advanced surface-mount techniques and partitioned 6-layer printed-circuit boards.

DSP: 150MIPS digital signal processor. Digital crossover at 2.6kHz. Response correction for the whole system. Bass protection. User tone controls. Analogue/digital volume and phase control.

Amplifiers: Three 75W power amplifiers, one for each driver.

Display: Eight-character display with system lights, can be blank.

Dimensions: Height: 903mm (without spikes/feet); width: 300mm at base, tapering to 179mm; depth: 356mm at base, tapering to 217mm.

Weight: 35 kgs packed.